

# 3D Visual Computing and Geometric Analysis

<https://3d.snu.ac.kr>

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2006 B.S. Electrical Engineering, Seoul National University  
2008 M.S. Electrical Engineering, Stanford University  
2013 Ph.D. Electrical Engineering, Stanford University  
2008 Visiting Researcher, MPI  
2013-2015 Research Scientist, KIST  
2015-2019 Senior Research Scientist, KIST  
2016-2018 Visiting Researcher, University of Texas at Austin  
2019-2023 Assistant Professor, Seoul National University  
2023-, Associate Professor, Seoul National University



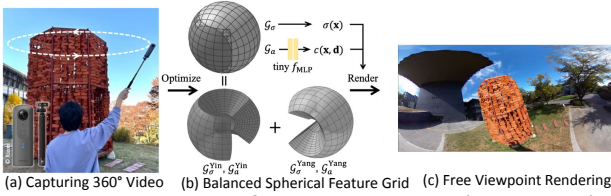
**301-916 & INMC(132)-225**  
9 Ph.D., 6 MS students

**Recommended Prerequisite**  
Programming (C/C++, MATLAB, Python, ...),  
Linear Algebra, Probability,  
Geometry, Optimization

## Research Mission

We strive to the emerging field of 3D vision where we understand the 3D world around us. We not only sense, acquire and perceive the 3D models, but also visualize and extract semantic information to develop various applications, namely VR/AR, robotics, human augmentation, and ambient intelligence to name a few. The ultimate goal is the bridge between human and intelligent agent to benefit human. We are looking for talented and creative crew to share our ambition!

## 3D for Visualization [ Graphics, AR/VR ]

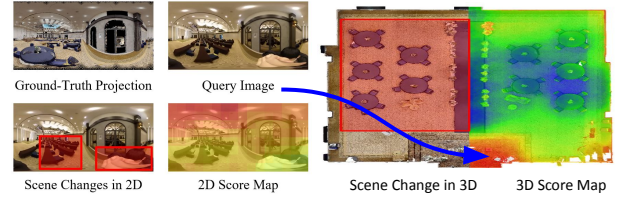


Neural rendering of large-scale scenes (CVPR 2023)

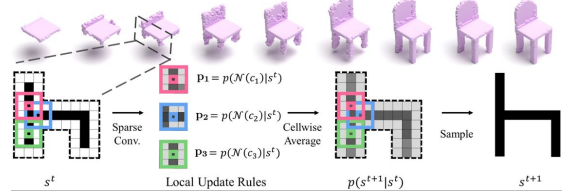


Text-driven indoor scene stylization  
with part-aware details (CVPR 2023)

## 3D for Perception [ Computer Vision ]

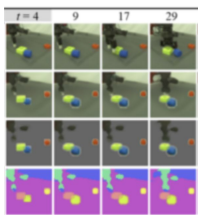


Change Robust Panoramic Localization (ECCV 2022)



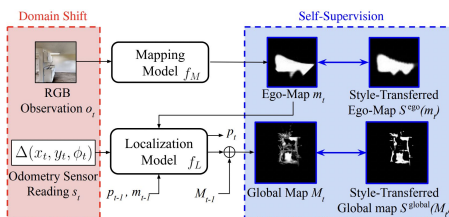
Probabilistic Scene Completion (ICLR 2021, 2022)

## 3D for Interaction [ Robotics, Animation ]

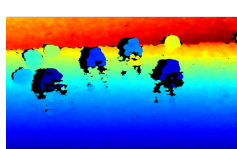


Agent-centric scene representation learning  
& Model-based planning in pixel-space

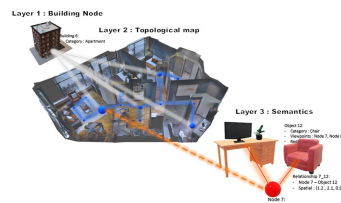
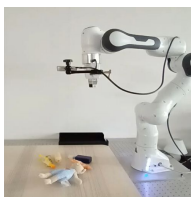
## 3D scene understanding of robotic interactions and planning



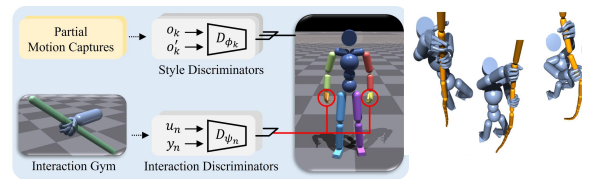
Test-time adaptation for navigation agent (ECCV 2022)



Vision-based robotics  
for transparent objects (IROS 2022)

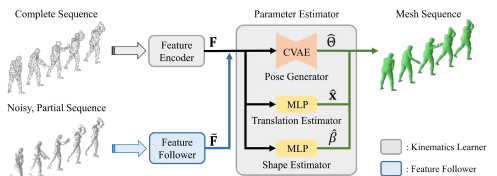


3D Scene Graph



Physics-based animation (SIGGRAPH 2023)

## Robust Neural Implicit SLAM



Utilizing Pretrained Reusable Motion Priors

## Multi-Human Motion Generation with Scene Understanding

